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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,653	07/03/2001	Michael J. Perani	07844-507001	9643
21876	7590	03/24/2004	EXAMINER	
FISH & RICHARDSON P.C. 3300 DAIN RAUSCHER PLAZA MINNEAPOLIS, MN 55402			HARRISON, CHANTE E	
			ART UNIT	PAPER NUMBER

2672

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/898,653

Applicant(s)

PERANI ET AL.

Examiner

Chante Harrison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/28/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications: Amendment A, filed on 8/28/03.
2. Claims 1-52 are pending in the case. Claims 1 and 27 are independent claims. Claims 1-3 have been amended. Claims 25-52 have been added.

Drawings

1. The proposed drawing corrections and/or the proposed substitute sheets of drawings, filed on 8/28/03 have been approved by Examiner. Thus, the objection to the drawings for including and/or not including reference signs mentioned in the description is withdrawn.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 7-8, 12 and 15-31, 33-34, 38, 41-52 are rejected under 35

U.S.C. 102(a & b) as being anticipated by Adobe "Adobe Illustrator 8.0 Classroom In A Book", Adobe Systems Incorporated 1998.

As per independent claim 1, Adobe discloses receiving a representation of a digital image, the image comprising vector objects (pp. 103, Fig.; pp. 374) "choose file...", each of the objects being specified by control points (pp. 103, Fig. ; pp. 107, Fig.); providing an editing brush for interactive editing of the image by a user (pp. 130), the editing brush having a size and shape defining a region of influence (i.e. Adobe teaches multiple brushes, including brushes that the user can create, having varying sizes and shapes and selectable options that can be used to manipulate objects, paths in different ways) (Fig. pp. 128; pp. 136, Figs.; pp. 335), the editing brush being operable to apply a displacement function to control points in the region of influence (pp. 168, Figs.), whereby when the editing brush is applied by the user to the image, a local distortion of a part of the image that overlaps with the region of influence is generated (pp. 169, Fig.) "Select the twirl tool..." (pp. 335) (i.e. application of a created brush to a selected image portion creates a distorted, e.g. wavy, path to the displayed image).

As per dependent claim 2, Adobe discloses receiving a user input specifying a shape for the region of influence (pp. 134) "size...spacing option".

As per dependent claim 3, Adobe receiving a user input specifying a size for the region of influence (pp. 134) "size option".

As per dependent claim 4, Adobe discloses add control point triplets to curves within the region of influence to refine the complexity of the image preparatory to application of the

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editing brush (pp. 107: fig.) “direct-selection tool lets you...edit individual segments in the curved line”; (pp. 134) “can change brush settings either before or after brushes have been applied to artwork.”.

As per dependent claim 5, Adobe discloses determining at each application of the editing brush whether to add control point triplets according to a user-specified value of a detail parameter (pp. 168) “[add] anchor points...you can specify the number of ...points to create...”.

As per dependent claim 7, Adobe discloses saving curve segment data of the image before application of the editing brush (pp. 130, Figs.), and replacing segments of image curves that have not been distorted by the editing brush are replaced with their previously saved copies (pp. 130, Para 2) “the portion of the selected path which you drew over is edited”; (pp. 132, Para 1) “...draw overlapping paths without altering the earlier paths”.

As per dependent claim 8, Adobe discloses apply a path simplification process in a piece-wise fashion to areas of curves that have been distorted (pp. 119, Figs.).

As per dependent claim 12, Adobe discloses a parameter of the displacement function is a trajectory of the editing brush as applied by the user (pp. 118, Figs.).

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As per dependent claim 15, Adobe discloses smooth details of curves; and remove superfluous control points (pp. 119) "...select the smooth tool...the...path may have fewer anchor points than the original".

As per dependent claim 16, Adobe moving control points of a curve in the region of influence towards the overall sweep of the curve (pp. 118, Figs.) "edit brushed paths...using the same methods as for paths drawn with the pencil tool".

As per dependent claim 17, Adobe discloses removing control points at a rate determined by the user (pp. 119) "...select the smooth tool...the...path may have fewer anchor points than the original".

As per dependent claim 18, Adobe discloses the displacement function defines a swirl effect (i.e. rotate) (p. 335 Figs).

As per dependent claim 19, Adobe discloses the displacement function defines a warp effect (Fig. 3, pp. 168).

As per dependent claim 20, Adobe discloses the displacement function defines an exhale effect (i.e. punk and bloat filter) (pp. 170).

As per dependent claim 21, Adobe discloses the displacement function defines an inhale effect (i.e. punk and bloat filter) (pp. 170).

As per dependent claim 22, Adobe discloses the displacement function defines a scallop effect (i.e. punk and bloat filter) (pp. 170).

As per dependent claim 23, Adobe discloses the displacement function defines a crystallize effect (i.e. zigzag) (pp. 168).

As per dependent claim 24, Adobe discloses the displacement function defines a wrinkle effect (i.e. zigzag) (pp. 168).

As per dependent claim 25, Adobe discloses applying the editing brush to the image to generate a local distortion of a part of the image that overlaps with the region of influence (i.e. Adobe teaches multiple brushes, including brushes that the user can create, having varying sizes and shapes and selectable options that can be used to manipulate objects, paths in different ways) (Fig. pp. 128; pp. 136, Figs.; pp. 335).

As per dependent claim 26, Adobe discloses applying a displacement function to control points in the region of influence (pp. 169, Fig.) "Select the twirl tool..." (pp. 335) (i.e. application of a created brush to a selected image portion creates a distorted, e.g. wavy, path to the displayed image).

As per independent claim 27, Adobe discloses a method performed in the program product of claim 1. Therefore the rationale applied in the rejection of claim 1 applies herein.

As per dependent claims 28-31, 33, 34, 38, and 41-50, the rationale applied in the rejections of claims 25, 7-8, 12, 15-24 applies correspondingly.

As per dependent claims 51 and 52, the rationale applied in the rejections of claims 25 and 26 apply correspondingly.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 10-11, 32 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adobe as applied to claim 1 above, and further in view of Mordy Golding "Sams Teach Yourself Adobe Illustrator 9 in 24 Hours", Sams, 2000.

As per dependent claim 6, Adobe fails to disclose removing from the image those control point triplets added to refine the complexity of the image that were not displaced by application of the editing brush, which Golding discloses (pp. 4, Para 2 & 4). It would have been obvious to one of skill in the art to include refining the image by removing added control points not displaced by application of the editing brush as taught by Golding in the disclosure of Adobe because Adobe teaches applying a smooth tool to modify displaced paths.

As per dependent claim 10, Adobe discloses determining a continuity constraint (i.e. anchor point position) for each anchor point in the region of influence before the displacement function is applied (pp. 114, Figs.); but fails to specifically ensure that each anchor point in the region of influence satisfies the continuity constraint after the editing brush is applied, which Golding discloses (pp. 2, Para 1) "Illustrator automatically

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joins the preceding anchor point with the next point on the path". It would have been obvious to one of skill in the art to include Golding's satisfies of the continuity constraint for each anchor point in the region of influence after the editing brush is applied in the disclosure of Adobe because Adobe discloses applying a direct selection tool, which allows the manipulation of a triplet (i.e. anchor and tangent handles) and displays edited curve portions connected to adjacent unedited curve portions so that they appear continuous (pp. 114, Figs.).

As per dependent claim 11, Adobe discloses determine a continuity constraint (i.e. anchor point position) in the region of influence for each anchor point that has at least one adjacent tangent handle also in the region of influence (pp. 114, Figs.) "Use direct selection tool to select...segments", the continuity constraint being determined before the displacement function is applied (pp. 114, Figs.) "Select anchor point...Adjust anchor point). Adobe fails to disclose ensuring that the continuity constraint for each such anchor point is satisfied after the editing brush is applied, which Golding discloses (pp. 2, Para 1) "Illustrator automatically joins the preceding anchor point with the next point on the path". It would have been obvious to one of skill in the art to include Golding's satisfies of the continuity constraint for each anchor point in the region of influence after the editing brush is applied in the disclosure of Adobe because Adobe discloses applying a direct selection tool, which allows the manipulation of a triplet (i.e. anchor and tangent handles) and displays edited curve portions connected to adjacent unedited curve portions so that they appear continuous (pp. 114, Figs.).

As per dependent claims 32, and 36-37, the rationale applied in the rejections of claims 6, 10 and 11 apply correspondingly.

5. Claims 9, 13, 14, 35, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adobe as applied to claim 1 above, and further in view of Paul Borrel and Ari Rappoport "Simple Constrained Deformations for Geometric Modeling and Interactive Design", ACM 1994.

As per dependent claim 9, Adobe fails to disclose the displacement function provides a smooth falloff to zero influence at the limit of the region of influence, which Borrel discloses (abstract). It would have been obvious to one of skill in the art to include Borrel's disclosure of a smooth falloff to zero influence at the limit of the region of influence in the disclosure of Adobe because Adobe teaches performing deformation of a selected path, where the deformed path maintains continuity with adjacent curve portions (pp. 114, Figs.).

As per dependent claim 13, Adobe fails to disclose the displacement function defines a vector field of displacements over the region of influence, which Borrel discloses (abstract). It would have been obvious to one of skill in the art to include Borrel's disclosure of a displacement function that defines a vector field of displacements over the region of influence in the disclosure of Adobe because Adobe teaches designating

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control points that define a path in a vector graphic image, where the defined path is manipulated based on user defined displacement of the control points.

As per dependent claim 14, Adobe in view of Borrel discloses a trajectory of the editing brush as applied by the user determines a rotational orientation of the vector field around an axis perpendicular to an image plane (pp. 134) "apply the brush to artwork...the rotation option indicates the orientation of the object in the brush....relative to either the page or the path".

As per dependent claims 25, 39 and 40, the rationale applied in the rejections of dependent claims 9, 13 and 14 apply correspondingly.

Response to Arguments

5. Applicant's arguments filed 8/28/03 have been fully considered but they are not persuasive.

Applicant argues (pp. 14, Para 2) Adobe's paintbrush tool does not correspond to Applicant's editing brush and it does not apply a displacement function...and generate a local distortion...

In reply, Adobe teaches curve segments are defined by anchor points and control points (Fig. pp. 107). Adobe further teaches a curve can be edited by manipulating its anchor/control points (Fig. pp. 114). Adobe also teaches a plurality of curve segments represents a path and like a curve the path can be edited by manipulating the

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anchor/control points (Fig. pp. 118). Adobe teaches editing a path by selecting and utilizing a tool to modify a portion of a path that is selected by the tool (Fig. pp. 130) (i.e. "...drawing over the selected path with the... tool, the portion of the selected path [drawn] over is edited." Adobe teaches that in editing a portion of a path the number of anchor/control points may change, thus applying a displacement function to control points in the region of influence (i.e. the selected and modified portion of the path) and generating a local distortion of the selected and modified portion of the path (Fig. pp. 119).

Applicant argues (pp.14, Para 3) the scatter brush of Adobe is not an editing brush as it is independent from the paintbrush taught by Adobe; and it does not apply a displacement function to control points in the region of influence and it does not generate a local distortion of a part of the image that overlaps the region of influence...

In reply, Adobe teaches a using a brush for editing, where the brush can have a variety of options selected dependent upon the type of editing effect the user wishes to apply. The scatter brush is one such option of the "editing" brush as taught by Adobe. Adobe teaches that the scatter brush can displace object elements along a path, by specification of the spacing and scatter of the brush by any of a selected parameter (i.e. fixed or random values dependent upon pressure input) (pp. 134). Adobe teaches that the scatter brush tool is operable with the paintbrush tool (pp. 136, Step 4). Therefore

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the scatter brush tool can inherently be used to modify the control points as described above in accordance with the paintbrush tool.

Applicant argues (pp. 15, Para 1) Adobe's zigzag distort filter is not an editing brush as it does not have a size and shape defining region of influence, apply a displacement function or generated a local distortion...

In reply, Adobe's zigzag filter is used in conjunction with its editing tools to apply distortion to a selected image portion (pp. 168). Additionally, Adobe teaches selecting regions of influence with a tool and displacing control points and applying local image distortion using a filter function (pp. 168).

Applicant argues (pp. 15, Para 2) Adobe's twirl tool does not have a region of influence, apply a displacement function to control points or generate a local distortion...

In reply, Adobe teaches manipulating an object (e.g. a star) that is composed of several joined curves (e.g. a path) through use of an editing tool (e.g. twirl tool), which rotates the object by dragging points on the object. Thus, the twirl tool applies a displacement function and local image distortion by changing the object's position.

With respect to claim 14, Applicant argues Adobe's scatter brush applies a set rotation with respect to the path and does not describe how a trajectory of an editing brush is used to determine a rotation of a vector field.

Adobe teaches using vector graphics (pp. 374, Para 4). Adobe teaches using brush input to determine the amount of rotation (Fig. pp. 169, step 4). Thus input of a rotational application via an editing brush determines the degree of rotation and the direction of the image vector field.

As described above, Adobe teaches applying a displacement function to control points and generating a local distortion...

Therefore the rejection in view of Adobe is maintained.

Accordingly, dependent claims 2-5, 7-8, 12, 14-24 that depend from claim 1 are not in condition for allowance.

With respect to claims 6, 9, 10-11 and 13, Applicant argues neither Borrel or Golding suggest a computer program product.

In reply, Golding teaches implementation of Illustrator 9.0, which is a software application (i.e. program product). Borrel teaches programming the scodef, which is a deformation obtained by creating overlapping b-spline-shaped bumps over a space (pp. 139, Para 2; pp. 150-151, Para 3).

Thus, the combining of Adobe with either Borrel or Golding in the rejection of claims 6, 9, 10-11 and 13 is obvious.

Therefore the rejections of Adobe in view of Borrel and again in view of Golding is maintained.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chante Harrison whose telephone number is 703-305-3937. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on 703-305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chante Harrison
Examiner
Art Unit 2672

March 17, 2004



MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
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